

FINAL

State of Wisconsin Department of Natural Resources
Bureau of Air Management

FID: 436035930

436035930 Manitowoc Public Utilities
701 Columbus St
Manitowoc

DNR Region: Northeast

County: Manitowoc

SIC Code: 4911 -- ELECTRIC SERVICES

NAICS Code: 22111 -- Electric Power Generation

Constr Date: 01/01/1915

Employees: 27

Area: 1437480 ft2

UTM Zone: 16

UTM X: 447410 m

UTM Y: 4881130 m

TOM REED

Facility Air Management Contact

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DEVICE AND PROCESS LIST

<u>DEVICE ID</u>	<u>DEVICE CODE</u>	<u>DEVICE NAME</u>	<u>DEVICE CATEGORY</u>
> <u>PROCESS ID</u>	> <u>PROCESS CODE</u>	> <u>PROCESS NAME</u>	> <u>PROCESS DESCRIPTION</u>
B09	BOILER	CIRCULATING FLUIDIZED BED BOILER	Boiler/Furnace
--> 01	GENERIC	COKE BURNED ^ CEMS TOTALS	Generic Throughput Process
--> 02	GENERIC	REPORT TONS COAL BURNED	Generic Throughput Process
--> 03	GENERIC	MILLION CUBIC FEET BURNED	Generic Throughput Process
--> 04	GENERIC	REPORT TONS PAPER BURNED	Generic Throughput Process
--> 05	GENERIC	Renewable Fuel (Red Arrow)	Generic Throughput Process
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B10	BOILER	NG package boiler - 33 mmbtu/hr	Boiler/Furnace
--> 01	GENERIC		Generic Throughput Process
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B28	BOILER	200 KLB/HR (MCR) 900# ATMOSPHERIC CIRCULATING FLUIDIZED BED BOILER EI: ATMOSPHERIC CIRCULATING FLUIDIZED BED BOILER	Boiler/Furnace
--> 01	GENERIC	COAL BURNED ^ CEMS TOTALS	Generic Throughput Process
--> 02	GENERIC	PETROLEUM COKE BURNED	Generic Throughput Process
--> 03	GENERIC	PAPER PELLETS BURNED	Generic Throughput Process
--> 04	GENERIC	GAS BURNER	Generic Throughput Process
--> 05	GENERIC	RENEWABLE FUEL (RED ARROW)	Generic Throughput Process
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C06	INJCTN CTRL	INJECTION, LIMESTONE	Miscellaneous
--> 01	CONTROLLING		Used for collectors
-----	-----	-----	-----
C07	BAGHOUSE	STAGED COMBUSTION	Baghouse/Fabric Filter
--> 01	CONTROLLING		Used for collectors
-----	-----	-----	-----
C08	BAGHOUSE	BOILER B28 BAGHOUSE	Baghouse/Fabric Filter
--> 01	CONTROLLING		Used for collectors
-----	-----	-----	-----
C09	BAGHOUSE	PULSE-JET FABRIC BAGHOUSE	Baghouse/Fabric Filter
--> 01	CONTROLLING	B09 Baghouse	Used for collectors
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C31	BAGHOUSE	Particulate laden flue gas enters an inlet manifold where it is distributed through compartment inlet valves to individual modules. The flue gas flows upward to tubular filter bags. These bags are suspended from the tubesheets located at the top of the module. The bags have a rigid wire cage inside to prevent collapse. The flue gas passes through the filter bag fabric from outside to inside. Particulate collects on the exterior surface of the bag and the cleaned flue gas exits from inside the bag up through the top and then through the tubesheet. The cleaned flue gas then passes into a plenum above the tubesheets and exits the compartment through an outlet valve into an outlet manifold for final exit through the induced draft fan, ductwork and stack. The particulate buildup is removed periodically by a pulse jet bag cleaning system. Bag cleaning is accomplished off-line by closing the outlet valve on a module and sequentially pulsing each row of bags with compressed air knocking ash off into a collection hopper. After the first compartment is cleaned, the next compartment will start to clean while the cleaned compartment will be brought back on line. El: 3 FILTERS BEFORE S. ASH BLOWER	Baghouse/Fabric Filter
--> 01	CONTROLLING	South Ash System	Used for collectors
C32	FILTER	3 FILTERS BEFORE N. ASH BLOWER	Fabric Filters
--> 01	CONTROLLING	North Ash System	Used for collectors
F21	LOADING STATION	SOLID FUEL RAILCAR AND/OR UNLOADING	Miscellaneous
--> 01	GENERIC	Solid fuel handling to crusher	Generic Throughput Process
F22	STOCKPILE	OUTDOOR SOLID FUEL STORAGE AND RECLAIM ACTIVITIES	Miscellaneous
--> 01	GENERIC	Rail Car unloading and stacking	Generic Throughput Process
F23	LOADING STATION	RAILCAR AND TRUCK RAW PROCESSED LIMESTONE UNLOADING	Miscellaneous
--> 01	GENERIC	Unit 9 limestone unloading	Generic Throughput Process
P12	SILO	SOLID FUEL STORAGE SILO VENTS	Miscellaneous
--> 01	GENERIC	Solid Fuel Handling System	Generic Throughput Process
P14	LOADING STATION	ASH SILO LOAD-IN	Miscellaneous
--> 01	GENERIC	Unloading of the East ash silo	Generic Throughput Process
--> 02	GENERIC	Conveying Ash to the East ash silo.	Generic Throughput Process
P28	IC ENGINE	TRANSAMERICA DELAVALLE DUEL FUEL ENGINE. 7313 HP, 12 CYLINDER, RECIPROCATING DIESEL ENGINE CAPABLE OF COMBUSTING 2 FUEL OIL AND/OR NATURAL GAS. THEY ARE PRIMARILY USED TO COVER PEAK ELECTRICAL LOADS.	Boiler/Furnace
--> 01	GENERIC	NATURAL GAS	Generic Throughput Process
--> 02	GENERIC	#2 FUEL OIL	Generic Throughput Process
P31	CONVEYOR	NORTH ASH CONVEYOR - B25, B26, B27	Miscellaneous

4/24/2013 10:30:34 AM

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--> 01	GENERIC	THRUPT IS DRY ASH TO N. SILO	Generic Throughput Process
--> 02	GENERIC	THRUPT IS DRY ASH TO N. TRUCK	Generic Throughput Process
--> 03	GENERIC	THRUPT IS WET ASH TO N. TRUCK	Generic Throughput Process
-----	-----	-----	-----
P32	CONVEYOR	SOUTH ASH CONVEYOR - B28	Miscellaneous
--> 01	GENERIC	THRUPT IS DRY ASH TO S. SILO	Generic Throughput Process
--> 02	GENERIC	THRUPT IS ASH TO S. TRUCK	Generic Throughput Process
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EMISSION FLOW SUMMARY

B09-01 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
B09-02 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
B09-03 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
B09-04 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
B09-05 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
B10-01 (100%) --> S10-01 (100%) --> OUT
B28-01 (100%) --> C08-01 (100%) --> S20-01 (100%) --> OUT
B28-02 (100%) --> C08-01 (100%) --> S20-01 (100%) --> OUT
B28-03 (100%) --> C08-01 (100%) --> S20-01 (100%) --> OUT
B28-04 (100%) --> C08-01 (100%) --> S20-01 (100%) --> OUT
B28-05 (100%) --> C08-01 (100%) --> S20-01 (100%) --> OUT
F21-01 (100%) --> OUT
F22-01 (100%) --> OUT
F23-01 (100%) --> OUT
P12-01 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
P14-01 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
P14-02 (100%) --> C09-01 (100%) --> S10-01 (100%) --> OUT
P28-01 (100%) --> S10-01 (100%) --> OUT
P28-02 (100%) --> S10-01 (100%) --> OUT
P31-01 (100%) --> C32-01 (100%) --> S31-01 (100%) --> OUT
P31-02 (100%) --> C32-01 (100%) --> S31-01 (100%) --> OUT
P31-03 (100%) --> OUT
P32-01 (100%) --> C31-01 (100%) --> S32-01 (100%) --> OUT
P32-02 (100%) --> C31-01 (100%) --> S32-01 (100%) --> OUT

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DEVICES/PROCESSES DETAILS

B09**Boiler/Furnace****Boiler****DEVICE DESC:** CIRCULATING FLUIDIZED BED BOILER**CONSTR DATE:** 07/01/2004**DEVICE COMMENTS:** Construction began January 12, 2004, Unit first fire
on gas August 15, 2005.**MAX RATED CAPACITY:** 650 MMBTU/HR**B09, Process 01****Generic Throughput
Process****PROCESS NAME:** COKE BURNED ^ CEMS
TOTALS**SCC CODE:** 10100801**PROCESS COMMENTS:****SCHEDULE:** 24 Hrs/Day

7 Dys/Wk

142 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 21%

Q3: 44%

Q4: 0%

ANNUAL TPUT: 22232.6 TON

of Coke

AVG TPUT: 6.52365 TON/HR**MAX TPUT:** 22.07 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
BENZIDINE	.000148 LB / TON	STK
BENZO(A)PYRE	.0000722 LB / TON	STK
BENZO(JK)FLE	.000823 LB / TON	STK
CO	0 LB / TON	EPA
NICKEL CMP	.0000931 LB / TON	DNR
NOX	0 LB / TON	EPA
PM	397 LB / TON	STK
PM10	397 LB / TON	STK
SO2	3.9E1*S LB / TON	EPA

5.67 %Sulfur used

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (m)	10000 LB	29,200.000 LB	29,200.000 LB	
NOX (m)	10000 LB	71,600.000 LB	71,600.000 LB	346.198 LB
PM (c)	10000 LB	8,826,342.200 LB	8,826.342 LB	
PM10 (c)	10000 LB	8,826,342.200 LB	8,826.342 LB	
SO2 (r)	10000 LB	234,200.000 LB	234,200.000 LB	
BENZIDINE (c) (fs)	.01 LB	3.290 LB	3.290 LB	
BENZO(A)PYRE (c) (s)	.81 LB	1.605 LB	1.605 LB	
BENZO(JK)FLE (c)	12 LB	18.297 LB	18.297 LB	
CO2 (r)	200000000 LB	199,225,400.000 LB	199,225,400.000 LB	
NICKEL CMP (c) (fs)	3.42 LB	2.070 LB	2.070 LB	

--INCOMING STREAMS--

TPUT --> B09-01

--OUTGOING STREAMS--

B09-01 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

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B09, Process 02 Generic Throughput Process

PROCESS NAME: REPORT TONS COAL
BURNED

SCC CODE: 10100218

PROCESS COMMENTS:

SCHEDULE: 24 Hrs/Day

7 Dys/Wk

142 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 21%

Q3: 44%

Q4: 0%

ANNUAL TPUT: 4589.13 TON

of Coal - Bituminous

AVG TPUT: 1.34658 TON/HR

MAX TPUT: 9.01 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.00041 LB / TON	DNR
BENZO(A)PYRE	.0000722 LB / TON	STK
BENZO(JK)FLE	.000823 LB / TON	STK
BERYLLIUM	.000021 LB / TON	DNR
CADMIUM	.000051 LB / TON	DNR
CO	0 LB / TON	EPA
HF	.15 LB / TON	EPA
HYDROGENCHLO	1.2 LB / TON	EPA
NICKEL CMP	.00028 LB / TON	DNR
NITROUSOXIDE	3.5 LB / TON	EPA
NOX	0 LB / TON	EPA
PM	397 LB / TON	STK
PM10	397 LB / TON	STK
SO2	0 LB / TON	EPA

.28 %Sulfur used

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	1,821,884.610 LB	1,821.885 LB	
PM10 (c)	10000 LB	1,821,884.610 LB	1,821.885 LB	
ARSENIC (c) (fs)	.21 LB	1.882 LB	1.882 LB	
BENZO(A)PYRE (c) (s)	.81 LB	.331 LB	.331 LB	
BENZO(JK)FLE (c)	12 LB	3.777 LB	3.777 LB	
BERYLLIUM (c) (fs)	.37 LB	.096 LB	.096 LB	
CADMIUM (c) (fs)	.49 LB	.234 LB	.234 LB	
HF (c) (fs)	803 LB	688.370 LB	688.370 LB	
HYDROGENCHLO (c)	1777 LB	5,506.956 LB	5,506.956 LB	
(fs)				
NICKEL CMP (c) (fs)	3.42 LB	1.285 LB	1.285 LB	
NITROUSOXIDE (c) (s)	6000 LB	16,061.955 LB	16,061.955 LB	

--INCOMING STREAMS--

TPUT --> B09-02

--OUTGOING STREAMS--

B09-02 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

B09, Process 03 Generic Throughput Process

PROCESS NAME: MILLION CUBIC FEET
BURNED

SCC CODE: 10100601

PROCESS COMMENTS: Gas burner for boiler start
up and combustion
stabilization as needed.

SCHEDULE: 7 Hrs/Day

1 Dys/Wk

9 Dys/Yr

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QTRLY SCHEDULE: Q1: 62% Q2: 0% Q3: 38% Q4: 0%
ANNUAL TPUT: 3.781 MMCF
of Natural Gas
AVG TPUT: 60.01587 E3 FT3/H
MAX TPUT: 130 E3 FT3/H

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.0002 LB / MMCF	EPA
BENZO(A)PYRE	.0000012 LB / MMCF	EPA
BENZO(JK)FLE	.000003 LB / MMCF	EPA
BERYLLIUM	.000012 LB / MMCF	EPA
CADMIUM	.0011 LB / MMCF	EPA
CO	0 LB / MMCF	DNR
CO2	0 LB / MMCF	EPA
NICKEL CMP	.0021 LB / MMCF	EPA
NITROUSOXIDE	2.2 LB / MMCF	EPA
NOX	0 LB / MMCF	EPA
PM	7.6 LB / MMCF	DNR
PM10	7.6 LB / MMCF	DNR
SO2	0 LB / MMCF	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	28.736 LB	.029 LB	
PM10 (c)	10000 LB	28.736 LB	.029 LB	
ARSENIC (c) (fs)	.21 LB	.001 LB	.001 LB	
BENZO(JK)FLE (c)	12 LB	.000 LB	.000 LB	
BERYLLIUM (c) (fs)	.37 LB	.000 LB	.000 LB	
CADMIUM (c) (fs)	.49 LB	.004 LB	.004 LB	
NICKEL CMP (c) (fs)	3.42 LB	.008 LB	.008 LB	
NITROUSOXIDE (c) (s)	6000 LB	8.318 LB	8.318 LB	

--INCOMING STREAMS--

TPUT --> B09-03

--OUTGOING STREAMS--

B09-03 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

B09, Process 04**Generic Throughput
Process****PROCESS NAME:** REPORT TONS PAPER
BURNED**SCC CODE:** 10201101**PROCESS COMMENTS:** Add paper pellets to fuel
mix**SCHEDULE:** 24 Hrs/Day

5 Dys/Wk

142 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 21%

Q3: 44%

Q4: 0%

ANNUAL TPUT: 6861.54 TONof Biofuel - not
elsewhere classified**AVG TPUT:** 2.01336 TON/HR**MAX TPUT:** 2.97 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO2	0 LB / TON	EPA
NOX	0 LB / TON	EPA
PM	397 LB / TON	STK
PM10	397 LB / TON	STK

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--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	2,724,031.380 LB	2,724.031 LB	
PM10 (c)	10000 LB	2,724,031.380 LB	2,724.031 LB	

--INCOMING STREAMS--

TPUT --> B09-04

--OUTGOING STREAMS--

B09-04 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

B09, Process 05**Generic Throughput
Process****PROCESS NAME:** Renewable Fuel (Red Arrow)**SCC CODE:** 10201101**PROCESS COMMENTS:****SCHEDULE:** 24 Hrs/Day

2 Dys/Wk

51 Dys/Yr

QTRLY SCHEDULE: Q1: 85%

Q2: 15%

Q3: 0%

Q4: 0%

ANNUAL TPUT: 434.42 TONof Biofuel - not
elsewhere classified**AVG TPUT:** .35492 TON/HR**MAX TPUT:** 6.5 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO2	0 LB / TON	EPA
NOX	0 LB / TON	EPA
PM	397 LB / TON	STK
PM10	397 LB / TON	STK

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	172,464.740 LB	172.465 LB	
PM10 (c)	10000 LB	172,464.740 LB	172.465 LB	

--INCOMING STREAMS--

TPUT --> B09-05

--OUTGOING STREAMS--

B09-05 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

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B10	Boiler/Furnace	Boiler
DEVICE DESC: NG package boiler - 33 mmbtu/hr		
CONSTR DATE:		
DEVICE COMMENTS: Construction of heating boiler began on April 16, 2012.		
MAX RATED CAPACITY: MMBTU/HR		

B10, Process 01	Generic Throughput Process
------------------------	-----------------------------------

PROCESS NAME:**SCC CODE:** 10100602**PROCESS COMMENTS:****SCHEDULE:** 21 Hrs/Day

5 Dys/Wk

149 Dys/Yr

QTRLY SCHEDULE: Q1: 0%

Q2: 32%

Q3: 32%

Q4: 36%

ANNUAL TPUT: 23.32 MMCF

of Natural Gas

AVG TPUT: 7.45286 E3 FT3/H**MAX TPUT:** 33 E3 FT3/H**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.0002 LB / MMCF	EPA
BENZO(A)PYRE	.0000012 LB / MMCF	EPA
BENZO(JK)FLE	.000003 LB / MMCF	EPA
BERYLLIUM	.000012 LB / MMCF	EPA
CADMIUM	.0011 LB / MMCF	EPA
CO	109 LB / MMCF	EPA
CO2	120000 LB / MMCF	EPA
NICKEL CMP	.0021 LB / MMCF	EPA
NITROUSOXIDE	2.2 LB / MMCF	EPA
NOX	42.5 LB / MMCF	EPA
PM	7.6 LB / MMCF	EPA
PM10	7.6 LB / MMCF	EPA
SO2	.6 LB / MMCF	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (c)	10000 LB	2,541.880 LB	2,541.880 LB	
NOX (c)	10000 LB	991.100 LB	991.100 LB	4.879 LB
PM (c)	10000 LB	177.232 LB	177.232 LB	
PM10 (c)	10000 LB	177.232 LB	177.232 LB	
SO2 (c)	10000 LB	13.992 LB	13.992 LB	
ARSENIC (c) (fs)	.21 LB	.005 LB	.005 LB	
BENZO(A)PYRE (c) (s)	.81 LB	.000 LB	.000 LB	
BENZO(JK)FLE (c)	12 LB	.000 LB	.000 LB	
BERYLLIUM (c) (fs)	.37 LB	.000 LB	.000 LB	
CADMIUM (c) (fs)	.49 LB	.026 LB	.026 LB	
CO2 (c)	200000000 LB	2,798,400.000 LB	2,798,400.000 LB	
NICKEL CMP (c) (fs)	3.42 LB	.049 LB	.049 LB	
NITROUSOXIDE (c) (s)	6000 LB	51.304 LB	51.304 LB	

--INCOMING STREAMS--

TPUT --> B10-01

--OUTGOING STREAMS--B10-01 (100%) --> S10-01
(100%) --> OUT

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B28	Boiler/Furnace	Boiler
DEVICE DESC: 200 KLB/HR (MCR) 900# ATMOSPHERIC CIRCULATING FLUIDIZED BED BOILER EI: ATMOSPHERIC CIRCULATING FLUIDIZED BED BOILER		
CONSTR DATE: 04/01/1991		
DEVICE COMMENTS:		
MAX RATED CAPACITY: 270 MMBTU/HR		

B28, Process 01	Generic Throughput Process
PROCESS NAME: COAL BURNED ^ CEMS TOTALS	
SCC CODE: 10100218	
PROCESS COMMENTS: Begin date is date of first commercial operation.	
SCHEDULE: 18 Hrs/Day	
QTRLY SCHEDULE: Q1: 24%	
ANNUAL TPUT: 2545.6 TON	
AVG TPUT: .65172 TON/HR	
MAX TPUT: 2.12 TON/HR	

4 Dys/Wk 217 Dys/Yr
Q2: 24% Q3: 26% Q4: 26%
of Coal - Bituminous

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.0000101 LB / TON	DNR
BENZIDINE	.000148 LB / TON	STK
BERYLLIUM	.0000169 LB / TON	DNR
CADMIUM	.0000172 LB / TON	DNR
CO	0 LB / TON	DNR
HF	.15 LB / TON	EPA
HYDROGENCHLO	1.2 LB / TON	EPA
NICKEL CMP	.000114 LB / TON	DNR
NITROUSOXIDE	3.5 LB / TON	EPA
NOX	0 LB / TON	DNR
PM	627 LB / TON	STK
PM10	627 LB / TON	STK
SO2	0 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (m)	10000 LB	45,600.000 LB	45,600.000 LB	
NOX (m)	10000 LB	78,800.000 LB	78,800.000 LB	394.000 LB
PM (c)	10000 LB	1,596,091.200 LB	1,596.091 LB	
PM10 (c)	10000 LB	1,596,091.200 LB	1,596.091 LB	
SO2 (m)	10000 LB	181,000.000 LB	181,000.000 LB	
ARSENIC (c) (fs)	.21 LB	.026 LB	.026 LB	
BENZIDINE (c) (fs)	.01 LB	.377 LB	.377 LB	
BERYLLIUM (c) (fs)	.37 LB	.043 LB	.043 LB	
CADMIUM (c) (fs)	.49 LB	.044 LB	.044 LB	
CO2 (r)	200000000 LB	91,269,200.000 LB	91,269,200.000 LB	
HF (c) (fs)	803 LB	381.840 LB	381.840 LB	
HYDROGENCHLO (c)	1777 LB	3,054.720 LB	3,054.720 LB	
(fs)				
NICKEL CMP (c) (fs)	3.42 LB	.290 LB	.290 LB	
NITROUSOXIDE (c) (s)	6000 LB	8,909.600 LB	8,909.600 LB	

--INCOMING STREAMS--

TPUT --> B28-01

--OUTGOING STREAMS--

MPU05104

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FID: 436035930

B28-01 (100%) --> C08-01
(100%) --> S20-01 (100%) -->
OUT

B28, Process 02**Generic Throughput
Process**

PROCESS NAME: PETROLEUM COKE
BURNED

SCC CODE: 10100801

PROCESS COMMENTS:

SCHEDULE: 18 Hrs/Day

4 Dys/Wk

217 Dys/Yr

QTRLY SCHEDULE: Q1: 24%

Q2: 24%

Q3: 26%

Q4: 26%

ANNUAL TPUT: 10182.38 TON

of Coke

AVG TPUT: 2.60686 TON/HR

MAX TPUT: 8.47 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.0000101 LB / TON	DNR
BERYLLIUM	.0000169 LB / TON	DNR
CADMIUM	.0000172 LB / TON	DNR
CO	0 LB / TON	STK
NICKEL CMP	.000114 LB / TON	DNR
NOX	0 LB / TON	DNR
PM	627 LB / TON	STK
PM10	627 LB / TON	STK
SO2	0 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	6,384,352.260 LB	6,384.352 LB	
PM10 (c)	10000 LB	6,384,352.260 LB	6,384.352 LB	
ARSENIC (c) (fs)	.21 LB	.103 LB	.103 LB	
BERYLLIUM (c) (fs)	.37 LB	.172 LB	.172 LB	
CADMIUM (c) (fs)	.49 LB	.175 LB	.175 LB	
NICKEL CMP (c) (fs)	3.42 LB	1.161 LB	1.161 LB	

--INCOMING STREAMS--

TPUT --> B28-02

--OUTGOING STREAMS--

B28-02 (100%) --> C08-01
(100%) --> S20-01 (100%) -->
OUT

B28, Process 03**Generic Throughput
Process**

PROCESS NAME: PAPER PELLETS
BURNED

SCC CODE: 10201101

PROCESS COMMENTS:

SCHEDULE: 19 Hrs/Day

4 Dys/Wk

207 Dys/Yr

QTRLY SCHEDULE: Q1: 25%

Q2: 22%

Q3: 26%

Q4: 27%

ANNUAL TPUT: 8720.22 TON

of Biofuel - not
elsewhere classified

AVG TPUT: 2.21719 TON/HR

MAX TPUT: 10 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
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ARSENIC	.0000101 LB / TON	DNR
BERYLLIUM	.0000101 LB / TON	DNR
CADMIUM	.0000169 LB / TON	DNR
CHLORINE	1.13 LB / TON	MBAL
CO2	0 LB / TON	EPA
NICKEL CMP	.000114 LB / TON	DNR
NOX	0 LB / TON	DNR
PM	627 LB / TON	STK
PM10	627 LB / TON	STK
SO2	0 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	5,467,577.940 LB	5,467.578 LB	
PM10 (c)	10000 LB	5,467,577.940 LB	5,467.578 LB	
ARSENIC (c) (fs)	.21 LB	.088 LB	.088 LB	
BERYLLIUM (c) (fs)	.37 LB	.088 LB	.088 LB	
CADMIUM (c) (fs)	.49 LB	.147 LB	.147 LB	
CHLORINE (c) (fs)	341 LB	9,853.849 LB	9,853.849 LB	
NICKEL CMP (c) (fs)	3.42 LB	.994 LB	.994 LB	

--INCOMING STREAMS--

TPUT --> B28-03

--OUTGOING STREAMS--

B28-03 (100%) --> C08-01
 (100%) --> S20-01 (100%) -->
 OUT

B28, Process 04**Generic Throughput
Process****PROCESS NAME:** GAS BURNER**SCC CODE:** 10200602**PROCESS COMMENTS:** This is for the startup gas burner for the boiler.**SCHEDULE:** 11 Hrs/Day

3 Dys/Wk

120 Dys/Yr

QTRLY SCHEDULE: Q1: 11%

Q2: 23%

Q3: 46%

Q4: 20%

ANNUAL TPUT: 9.585 MMCF

of Natural Gas

AVG TPUT: 7.26136 E3 FT3/H**MAX TPUT:** 11.9 E3 FT3/H**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
ARSENIC	.0002 LB / MMCF	EPA
BENZO(A)PYRE	.0000012 LB / MMCF	EPA
BENZO(JK)FLE	.000003 LB / MMCF	EPA
BERYLLIUM	.000012 LB / MMCF	EPA
CADMIUM	.0011 LB / MMCF	EPA
CO	0 LB / MMCF	EPA
CO2	0 LB / MMCF	EPA
NICKEL CMP	.0021 LB / MMCF	EPA
NITROUSOXIDE	2.2 LB / MMCF	EPA
NOX	0 LB / MMCF	DNR
PM	7.6 LB / MMCF	EPA
PM10	7.6 LB / MMCF	EPA
SO2	0 LB / MMCF	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	72.846 LB	.073 LB	
PM10 (c)	10000 LB	72.846 LB	.073 LB	

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ARSENIC (c) (fs)	.21 LB	.002 LB	.002 LB
BENZO(A)PYRE (c) (s)	.81 LB	.000 LB	.000 LB
BENZO(JK)FLE (c)	12 LB	.000 LB	.000 LB
BERYLLIUM (c) (fs)	.37 LB	.000 LB	.000 LB
CADMIUM (c) (fs)	.49 LB	.011 LB	.011 LB
NICKEL CMP (c) (fs)	3.42 LB	.020 LB	.020 LB
NITROUSOXIDE (c) (s)	6000 LB	21.087 LB	21.087 LB

--INCOMING STREAMS--

TPUT --> B28-04

--OUTGOING STREAMS--

B28-04 (100%) --> C08-01
(100%) --> S20-01 (100%) -->
OUT

B28, Process 05**Generic Throughput
Process****PROCESS NAME:** RENEWABLE FUEL (RED
ARROW)**SCC CODE:** 10201101**PROCESS COMMENTS:** Charcoal is blended with
coke/coal. Normally 1-2
times per week.**SCHEDULE:** 20 Hrs/Day

2 Dys/Wk

61 Dys/Yr

QTRLY SCHEDULE: Q1: 67%

Q2: 33%

Q3: 0%

Q4: 0%

ANNUAL TPUT: 270.64 TONof Biofuel - not
elsewhere classified**AVG TPUT:** .22184 TON/HR**MAX TPUT:** 2.6 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO	0 LB / TON	DNR
CO2	0 LB / TON	EPA
NOX	0 LB / TON	DNR
PM	627 LB / TON	STK
PM10	627 LB / TON	STK
SO2	0 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	169,691.280 LB	169.691 LB	
PM10 (c)	10000 LB	169,691.280 LB	169.691 LB	

--INCOMING STREAMS--

TPUT --> B28-05

--OUTGOING STREAMS--

B28-05 (100%) --> C08-01
(100%) --> S20-01 (100%) -->
OUT

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C06 **Miscellaneous** **Injection Control****DEVICE DESC:** INJECTION, LIMESTONE**CONSTR DATE:** 04/01/1991**DEVICE COMMENTS:****--CTRL EFFIC--**

<u>POLLUTANT</u>	<u>VALUE</u>
SO2	90%

C06, Process 01 **Used for collectors****PROCESS NAME:****PROCESS COMMENTS:** ALTHOUGH COLLECTION
EFFICIENCY ABOVE 90%
IS MANDATORY THE
COLLECTION
EFFICIENCY IS STATED
TO BE 90%. ACTUAL
EMISSIONS OF SO2 CAN
BE CROSS CHECKED
AGAINST EMISSIONS
SUBMITTED AS PART OF
TITLE IV.**SCHEDULE:** 22 Hrs/Day

5 Dys/Wk

268 Dys/Yr

QTRLY SCHEDULE: Q1: 40%

Q2: 22%

Q3: 32%

Q4: 6%

--OUTGOING STREAMS--C06-01 (100%) --> C07-01
(100%) --> C08-01 (100%) -->
S20-01 (100%) --> OUT

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C07

Baghouse/Fabric Filter

Baghouse

DEVICE DESC: STAGED COMBUSTION

CONSTR DATE: 04/01/1991

DEVICE COMMENTS: LOW COMBUSTION TEMPERATURES AND
STAGED COMBUSTION KEEP THERMAL NOX TO
A MINIMUM. CONTROL EFFICIENCY IS 80% OF
POTENTIAL.

--CTRL EFFIC--

POLLUTANT

VALUE

NOX

80%

C07, Process 01

Used for collectors

PROCESS NAME:

PROCESS COMMENTS:

SCHEDULE: 22 Hrs/Day

5 Dys/Wk

268 Dys/Yr

QTRLY SCHEDULE: Q1: 34%

Q2: 22%

Q3: 34%

Q4: 10%

--INCOMING STREAMS--

C06-01 (100%) --> C07-01

--OUTGOING STREAMS--

C07-01 (100%) --> C08-01
(100%) --> S20-01 (100%) -->
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C08	Baghouse/Fabric Filter		Baghouse
	DEVICE DESC: BOILER B28 BAGHOUSE		
	CONSTR DATE: 04/15/1991		
	DEVICE COMMENTS:		
--CTRL EFFIC--			
	<u>POLLUTANT</u>	<u>VALUE</u>	
	PM10	99.9%	
	PM	99.9%	

C08, Process 01 Used for collectors

PROCESS NAME:

PROCESS COMMENTS:

SCHEDULE: 19 Hrs/Day

4 Dys/Wk

217 Dys/Yr

QTRLY SCHEDULE: Q1: 29%

Q2: 25%

Q3: 22%

Q4: 24%

--INCOMING STREAMS--

B28-04 (100%) --> C08-01

B28-05 (100%) --> C08-01

B28-01 (100%) --> C08-01

B28-02 (100%) --> C08-01

B28-03 (100%) --> C08-01

C07-01 (100%) --> C08-01

--OUTGOING STREAMS--

C08-01 (100%) --> S20-01

(100%) --> OUT

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C09 **Baghouse/Fabric Filter** **Baghouse****DEVICE DESC:** PULSE-JET FABRIC BAGHOUSE**CONSTR DATE:****DEVICE COMMENTS:** Mentioned in Permit 02-RV-147**--CTRL EFFIC--**

<u>POLLUTANT</u>	<u>VALUE</u>
PM10	99.9%
PM	99.9%

C09, Process 01 **Used for collectors****PROCESS NAME:** B09 Baghouse**PROCESS COMMENTS:****SCHEDULE:** 24 Hrs/Day

5 Dys/Wk

142 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 21%

Q3: 44%

Q4: 0%

--INCOMING STREAMS--

B09-01 (100%) --> C09-01
P12-01 (100%) --> C09-01
P14-01 (100%) --> C09-01
B09-02 (100%) --> C09-01
B09-03 (100%) --> C09-01
B09-04 (100%) --> C09-01
P14-02 (100%) --> C09-01
B09-05 (100%) --> C09-01

--OUTGOING STREAMS--

C09-01 (100%) --> S10-01
(100%) --> OUT

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C31**Baghouse/Fabric Filter****Baghouse**

DEVICE DESC: Particulate laden flue gas enters an inlet manifold where it is distributed through compartment inlet valves to individual modules. The flue gas flows upward to tubular filter bags. These bags are suspended from the tubesheets located at the top of the module. The bags have a rigid wire cage inside to prevent collapse. The flue gas passes through the filter bag fabric from outside to inside. Particulate collects on the exterior surface of the bag and the cleaned flue gas exits from inside the bag up through the top and then through the tubesheet. The cleaned flue gas then passes into a plenum above the tubesheets and exits the compartment through an outlet valve into an outlet manifold for final exit through the induced draft fan, ductwork and stack. The particulate buildup is removed periodically by a pulse jet bag cleaning system. Bag cleaning is accomplished off-line by closing the outlet valve on a module and sequentially pulsing each row of bags with compressed air knocking ash off into a collection hopper. After the first compartment is cleaned, the next compartment will start to clean while the cleaned compartment will be brought back on line. EI: 3 FILTERS BEFORE S. ASH BLOWER

CONSTR DATE: 04/15/1991**DEVICE COMMENTS:****--CTRL EFFIC--**

<u>POLLUTANT</u>	<u>VALUE</u>
PM10	99.9898%
PM	99.9898%

C31, Process 01**Used for collectors****PROCESS NAME:** South Ash System**PROCESS COMMENTS:****SCHEDULE:** 4 Hrs/Day

4 Dys/Wk

219 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 30%

Q3: 12%

Q4: 23%

--INCOMING STREAMS--

P32-01 (100%) --> C31-01

P32-02 (100%) --> C31-01

--OUTGOING STREAMS--C31-01 (100%) --> S32-01
(100%) --> OUT

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C32 **Fabric Filters** **Filter, Mat or Panel**

DEVICE DESC: 3 FILTERS BEFORE N. ASH BLOWER

CONSTR DATE:

DEVICE COMMENTS:

--CTRL EFFIC--

<u>POLLUTANT</u>	<u>VALUE</u>
PM	99.9622%

C32, Process 01 **Used for collectors**

PROCESS NAME: North Ash System

PROCESS COMMENTS:

SCHEDULE: 0 Hrs/Day

0 Dys/Wk

0 Dys/Yr

QTRLY SCHEDULE: Q1: 25%

Q2: 25%

Q3: 25%

Q4: 25%

--INCOMING STREAMS--

P31-01 (100%) --> C32-01

P31-02 (100%) --> C32-01

--OUTGOING STREAMS--

C32-01 (100%) --> S31-01

(100%) --> OUT

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FID: 436035930

F21	Miscellaneous	Loading Station
DEVICE DESC: SOLID FUEL RAILCAR AND/OR UNLOADING		
CONSTR DATE: 01/01/2003		
DEVICE COMMENTS: Fugitive emissions from unloading trucks and rail cars to the crusher house feed hopper. The hopper is fed to the crusher and the discharge mixes with paper then to incline.		

F21, Process 01	Generic Throughput Process
PROCESS NAME: Solid fuel handling to crusher	
SCC CODE: 30501044	
PROCESS COMMENTS: Coke and coal are assumed equivalent for this process- RCP This process feeds fuel to the crusher and conveys it to the fuel bunkers.	
SCHEDULE: 2 Hrs/Day	6 Dys/Wk
QTRLY SCHEDULE: Q1: 32%	Q2: 22%
ANNUAL TPUT: 46845.62 TON	282 Dys/Yr
	Q3: 42%
	Q4: 4%
AVG TPUT: 83.05960992908 TON/HR	of PRODUCT - MINERALS
MAX TPUT: 150 TON/HR	

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.0059 LB / TON	DNR
PM10	.0059 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	276.389 LB	276.389 LB	
PM10 (c)	10000 LB	276.389 LB	276.389 LB	

--INCOMING STREAMS--

TPUT --> F21-01

--OUTGOING STREAMS--

F21-01 (100%) --> OUT

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F22 **Miscellaneous** **Material Stockpile**
DEVICE DESC: OUTDOOR SOLID FUEL STORAGE AND RECLAIM
 ACTIVITIES
CONSTR DATE: 01/01/2003
DEVICE COMMENTS: Pet coke storage pile and the unloading and stacking
 system.

F22, Process 01 **Generic Throughput
Process**

PROCESS NAME: Rail Car unloading and
stacking

SCC CODE: 30502505

PROCESS COMMENTS: This data is for the total pet
coke unloaded by railcar
and the time required to do
this. The pile existed every
day and averaged 8,444.12
tons of inventory. Total
coke delivered was 167,532
tons.

SCHEDULE: 8 Hrs/Day

1 Dys/Wk

36 Dys/Yr

QTRLY SCHEDULE: Q1: 32%

Q2: 17%

Q3: 34%

Q4: 17%

ANNUAL TPUT: 43533.56 TON

of PRODUCT -
MINERALS

AVG TPUT: 151.15819 TON/HR

MAX TPUT: 180 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.06 LB / TON	EPA
PM10	.06 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	2,612.014 LB	2,612.014 LB	
PM10 (c)	10000 LB	2,612.014 LB	2,612.014 LB	

--INCOMING STREAMS--

TPUT --> F22-01

--OUTGOING STREAMS--

F22-01 (100%) --> OUT

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F23	Miscellaneous Loading Station
DEVICE DESC: RAILCAR AND TRUCK RAW PROCESSED LIMESTONE UNLOADIN	
CONSTR DATE: 01/01/2003	
DEVICE COMMENTS: From 02-RV-147, Boiler 09 limestone storage silo is vented indoors at this time.	

F23, Process 01	Generic Throughput Process
------------------------	-----------------------------------

PROCESS NAME: Unit 9 limestone unloading**SCC CODE:** 30501044

PROCESS COMMENTS: This process is for the pneumatic transfer of unit 9 limestone from the trucks or rail cars (theoretically) to the limestone bunker. Two trucks/cars can be unload at the same time. Silo is vented indoors from baghouse.

SCHEDULE: 7 Hrs/Day

3 Dys/Wk

142 Dys/Yr

QTRLY SCHEDULE: Q1: 31%

Q2: 20%

Q3: 49%

Q4: 0%

ANNUAL TPUT: 10047.52 TON

of PRODUCT - MINERALS

AVG TPUT: 10.10817 TON/HR**MAX TPUT:** 20 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.0059 LB / TON	DNR
PM10	.0059 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	59.280 LB	59.280 LB	
PM10 (c)	10000 LB	59.280 LB	59.280 LB	

--INCOMING STREAMS--

TPUT --> F23-01

--OUTGOING STREAMS--

F23-01 (100%) --> OUT

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P12	Miscellaneous Silo
DEVICE DESC: SOLID FUEL STORAGE SILO VENTS	
CONSTR DATE: 01/01/2003	
DEVICE COMMENTS: From permit 02-RV-147 , This is the binvent system for the unit 9 fuel bunker.	

P12, Process 01	Generic Throughput Process
------------------------	-----------------------------------

PROCESS NAME: Solid Fuel Handling System**SCC CODE:** 30501010

PROCESS COMMENTS: The following data is reported for the crusher house per the new operating permit.

SCHEDULE: 2 Hrs/Day	6 Dys/Wk	282 Dys/Yr	
QTRLY SCHEDULE: Q1: 32%	Q2: 22%	Q3: 42%	Q4: 4%
ANNUAL TPUT: 46845.62 TON	of PRODUCT - MINERALS		
AVG TPUT: 83.05961 TON/HR			
MAX TPUT: 150 TON/HR			

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.02 LB / TON	EPA
PM10	.02 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	936.912 LB	.937 LB	
PM10 (c)	10000 LB	936.912 LB	.937 LB	

--INCOMING STREAMS--

TPUT --> P12-01

--OUTGOING STREAMS--

P12-01 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

P14	Miscellaneous Loading Station
DEVICE DESC: ASH SILO LOAD-IN	
CONSTR DATE:	
DEVICE COMMENTS: East ash silo system. Emission sources are the blower exhaust stack S14, and fugitive dust from the truck loading station. Thruput will be tons of ash hauled away.	

P14, Process 01	Generic Throughput Process
------------------------	-----------------------------------

PROCESS NAME: Unloading of the East ash silo**SCC CODE:** 30501008

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PROCESS COMMENTS: This process is the ash system for boiler 9, commonly called the east ash silo. Silo can be loaded into trucks or rail cars. Data provided is for the unloading of the ash silo into trucks, no rail cars at this time.

SCHEDULE: 1 Hrs/Day	3 Dys/Wk	118 Dys/Yr	
QTRLY SCHEDULE: Q1: 30%	Q2: 30%	Q3: 40%	Q4: 0%
ANNUAL TPUT: 10639.57 TON	of PRODUCT - MINERALS		
AVG TPUT: 90.16585 TON/HR			
MAX TPUT: 150 TON/HR			

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.02 LB / TON	EPA
PM10	.02 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	212.791 LB	.213 LB	
PM10 (c)	10000 LB	212.791 LB	.213 LB	

--INCOMING STREAMS--

TPUT --> P14-01

--OUTGOING STREAMS--

P14-01 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

P14, Process 02**Generic Throughput Process**

PROCESS NAME: Conveying Ash to the East ash silo.

SCC CODE: 30501008

PROCESS COMMENTS: Process P14-02 is the suction system from boiler 9 to ash silo. System operates on vacuum so no fugitive losses, only discharge would be the stack. This system could also serve unit B28.

SCHEDULE: 9 Hrs/Day	3 Dys/Wk	147 Dys/Yr	
QTRLY SCHEDULE: Q1: 30%	Q2: 30%	Q3: 40%	Q4: 0%
ANNUAL TPUT: 10639.57 TON	of PRODUCT - MINERALS		
AVG TPUT: 8.042 TON/HR			
MAX TPUT: 15 TON/HR			

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.005634 LB / TON	STK
PM10	.005634 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	59.943 LB	.060 LB	

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PM10 (c) 10000 LB 59.943 LB .060 LB

--INCOMING STREAMS--

TPUT --> P14-02

--OUTGOING STREAMS--

P14-02 (100%) --> C09-01
(100%) --> S10-01 (100%) -->
OUT

P28	Boiler/Furnace	Internal Combustion Engine
DEVICE DESC: TRANSAMERICA DELAVALLE DUEL FUEL ENGINE. 7313 HP, 12 CYLINDER, RECIPROCATING DIESEL ENGINE CAPABLE OF COMBUSTING 2 FUEL OIL AND/OR NATURAL GAS. THEY ARE PRIMARILY USED TO COVER PEAK ELECTRICAL LOADS.		
CONSTR DATE: 11/01/1985		
DEVICE COMMENTS:		
MAX RATED CAPACITY: MMBTU/HR		

P28, Process 01**Generic Throughput Process****PROCESS NAME:** NATURAL GAS**SCC CODE:** 20100202

PROCESS COMMENTS: NATURAL GAS BURNED BY ENGINE. CURRENT AP-42 EFs FOR THESE UNITS DO NOT MATCH WHAT IS LISTED IN THIS INVENTORY. MPU REQUESTS THAT 1997 NO_x EF BE CHANGED FROM 3400 LB/MMCF TO 1100 LB/MMCF TO MATCH STACK TEST DATA SUBMITTED MARCH 19, 1996 WITH PSD

SCHEDULE: 3 Hrs/Day

1 Dys/Wk

8 Dys/Yr

QTRLY SCHEDULE: Q1: 10%

Q2: 3%

Q3: 87%

Q4: 0%

ANNUAL TPUT: .9517 MMCF

of Natural Gas

AVG TPUT: 39.65417 E3 FT3/H**MAX TPUT:** 51.2 E3 FT3/H**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
CO	430 LB / MMCF	AFS
CO2	110000 LB / MMCF	EPA
NOX	1100 LB / MMCF	STK
PM	10 LB / MMCF	AFS
PM10	10 LB / MMCF	AFS
SO2	.6 LB / MMCF	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (c)	10000 LB	409.231 LB	409.231 LB	
NOX (c)	10000 LB	1,046.870 LB	1,046.870 LB	70.060 LB
PM (c)	10000 LB	9.517 LB	9.517 LB	
PM10 (c)	10000 LB	9.517 LB	9.517 LB	

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SO2 (c)	10000 LB	.571 LB	.571 LB
CO2 (c)	200000000 LB	104,687.000 LB	104,687.000 LB

--INCOMING STREAMS--

TPUT --> P28-01

--OUTGOING STREAMS--

P28-01 (100%) --> S10-01
(100%) --> OUT

P28, Process 02**Generic Throughput
Process****PROCESS NAME:** #2 FUEL OIL**SCC CODE:** 20100102

PROCESS COMMENTS: #2 FUEL OIL BURNED BY
2 ENGINES FOR
STARTUP PURPOSES
AND THE IGNITION OF
THE NATURAL GAS FUEL.

SCHEDULE: 3 Hrs/Day

1 Dys/Wk

8 Dys/Yr

QTRLY SCHEDULE: Q1: 13%

Q2: 0%

Q3: 87%

Q4: 0%

ANNUAL TPUT: 2480 GALof Fuel Oil - Distillate
(aka Diesel)**AVG TPUT:** 103.33333 GAL/HR**MAX TPUT:** 680 GAL/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
BENZO(JK)FLE	.000131 LB / E3 GAL	EPA
CO	130 LB / E3 GAL	EPA
CO2	22.275 LB / GAL	EPA
NOX	604 LB / E3 GAL	EPA
PM	42.5 LB / E3 GAL	DNR
PM10	42.5 LB / E3 GAL	FIRE6.23
SO2	39.7 LB / E3 GAL	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
CO (c)	10000 LB	322.400 LB	322.400 LB	
NOX (c)	10000 LB	1,497.920 LB	1,497.920 LB	100.245 LB
PM (c)	10000 LB	105.400 LB	105.400 LB	
PM10 (c)	10000 LB	105.400 LB	105.400 LB	
SO2 (c)	10000 LB	98.456 LB	98.456 LB	
BENZO(JK)FLE (c)	12 LB	.000 LB	.000 LB	
CO2 (c)	200000000 LB	55,242.000 LB	55,242.000 LB	

--INCOMING STREAMS--

TPUT --> P28-02

--OUTGOING STREAMS--

P28-02 (100%) --> S10-01
(100%) --> OUT

P31**Miscellaneous****Conveyor****DEVICE DESC:** NORTH ASH CONVEYOR - B25, B26, B27**CONSTR DATE:****DEVICE COMMENTS:**

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P31, Process 01 Generic Throughput Process

PROCESS NAME: THRUPT IS DRY ASH TO N. SILO

SCC CODE: 30502006

PROCESS COMMENTS: Process P31-01 is the suction system from the boilers to ash silo. System operates on vacuum so no fugitive losses, only discharge would be the stack and that is normally recycled to 8-boiler.

SCHEDULE: 0 Hrs/Day

0 Dys/Wk

0 Dys/Yr

QTRLY SCHEDULE: Q1: 25%

Q2: 25%

Q3: 25%

Q4: 25%

ANNUAL TPUT: 0 TON

of PRODUCT - MINERALS

AVG TPUT: 0 TON/HR

MAX TPUT: 5 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	2000 LB / TON	MBAL
PM10	.0007 LB / TON	EPA

--INCOMING STREAMS--

TPUT --> P31-01

--OUTGOING STREAMS--

P31-01 (100%) --> C32-01
(100%) --> S31-01 (100%) --> OUT

P31, Process 02 Generic Throughput Process

PROCESS NAME: THRUPT IS DRY ASH TO N. TRUCK

SCC CODE: 30501627

PROCESS COMMENTS: This process is for using the dry loading sytem for loading trucks. Was not used this year.

SCHEDULE: 0 Hrs/Day

0 Dys/Wk

0 Dys/Yr

QTRLY SCHEDULE: Q1: 25%

Q2: 25%

Q3: 25%

Q4: 25%

ANNUAL TPUT: 0 TON

of PRODUCT - MINERALS

AVG TPUT: 0 TON/HR

MAX TPUT: 0 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	1.5 LB / TON	EPA
PM10	1.5 LB / TON	EPA

--INCOMING STREAMS--

TPUT --> P31-02

--OUTGOING STREAMS--

P31-02 (100%) --> C32-01
(100%) --> S31-01 (100%) --> OUT

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P31, Process 03 Generic Throughput Process

PROCESS NAME: THRUPT IS WET ASH TO N. TRUCK

SCC CODE: 30501626

PROCESS COMMENTS: This process for mixing ash with water before it is loaded into trucks.

SCHEDULE: 0 Hrs/Day

0 Dys/Wk

0 Dys/Yr

QTRLY SCHEDULE: Q1: 25%

Q2: 25%

Q3: 25%

Q4: 25%

ANNUAL TPUT: 0 TON

of PRODUCT - MINERALS

AVG TPUT: 0 TON/HR

MAX TPUT: 100.3 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	.61 LB / TON	EPA
PM10	.061 LB / TON	FIRE6.25_DNR

--INCOMING STREAMS--

TPUT --> P31-03

--OUTGOING STREAMS--

P31-03 (100%) --> OUT

P32 Miscellaneous Conveyor
DEVICE DESC: SOUTH ASH CONVEYOR - B28
CONSTR DATE:
DEVICE COMMENTS:

P32, Process 01 Generic Throughput Process

PROCESS NAME: THRUPT IS DRY ASH TO S. SILO

SCC CODE: 30502006

PROCESS COMMENTS: This process is for the dry loading of the south ash silo from the boilers to the silo. This is a vacuum process so there would not be fugitive emissions.

SCHEDULE: 4 Hrs/Day

4 Dys/Wk

219 Dys/Yr

QTRLY SCHEDULE: Q1: 35%

Q2: 30%

Q3: 12%

Q4: 23%

ANNUAL TPUT: 3628.51 TON

of PRODUCT - MINERALS

AVG TPUT: 4.1421347032 TON/HR

MAX TPUT: 10 TON/HR

--EMISSION FACTORS--

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	2000 LB / TON	MBAL
PM10	.0007 LB / TON	EPA

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	7,257,020.000 LB	740.216 LB	
PM10 (c)	10000 LB	2.540 LB	.000 LB	

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--INCOMING STREAMS--

TPUT --> P32-01

--OUTGOING STREAMS--

P32-01 (100%) --> C31-01
(100%) --> S32-01 (100%) -->
OUT

P32, Process 02**Generic Throughput
Process****PROCESS NAME:** THRUPT IS ASH TO S.
TRUCK**SCC CODE:** 30501627**PROCESS COMMENTS:** This process is for the
loading of trucks from the
ash silo.**SCHEDULE:** 1 Hrs/Day
QTRLY SCHEDULE: Q1: 35%

2 Dys/Wk

82 Dys/Yr

Q2: 30%

Q3: 12%

Q4: 23%

ANNUAL TPUT: 3628.51 TONof PRODUCT -
MINERALS**AVG TPUT:** 44.25012 TON/HR**MAX TPUT:** 325 TON/HR**--EMISSION FACTORS--**

<u>POLLUTANT</u>	<u>VALUE / UNIT</u>	<u>ORIGIN</u>
PM	2 LB / TON	DNR
PM10	.0007 LB / TON	DNR

--EMISSIONS / YR--

<u>POLLUTANT</u>	<u>NR438 THRESH</u>	<u>UNCNTRLD</u>	<u>CNTRLD</u>	<u>OZONE/DY</u>
PM (c)	10000 LB	7,257.020 LB	.740 LB	
PM10 (c)	10000 LB	2.540 LB	.000 LB	

--INCOMING STREAMS--

TPUT --> P32-02

--OUTGOING STREAMS--

P32-02 (100%) --> C31-01
(100%) --> S32-01 (100%) -->
OUT

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S10	Stack	Stack
DEVICE DESC: CONSTR DATE: 01/01/1950 DEVICE COMMENTS: STACK HEIGHT: 76.2 m STACK DIAMETER: 3.66 m STACK TEMP: 444.3 K STACK VELOCITY: 6.53 m/s		
		or 250 ft or 12.01 ft or 340.07 F or 21.42 ft/s

S10, Process 01

Releasing/Discharging
material to the
atmosphere

PROCESS NAME: Chimney S10

PROCESS COMMENTS: ALL CRITERIA AND HAPs
LISTED FOR B09, B25,
AND P28 MAY BE
EMITTED FROM STACK
S10. S10 will act as a
collector and ash is
removed from the stack on
a regular basis. Should
become a device.

SCHEDULE: 24 Hrs/Day

7 Dys/Wk

296 Dys/Yr

QTRLY SCHEDULE: Q1: 21%

Q2: 26%

Q3: 26%

Q4: 27%

--INCOMING STREAMS--

C09-01 (100%) --> S10-01

P28-01 (100%) --> S10-01

P28-02 (100%) --> S10-01

B10-01 (100%) --> S10-01

--OUTGOING STREAMS--

S10-01 (100%) --> OUT

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FID: 436035930

S20	Stack	Stack
DEVICE DESC:		
CONSTR DATE: 01/01/1989		
DEVICE COMMENTS:		
STACK HEIGHT: 76.2 m		or 250 ft
STACK DIAMETER: 4.27 m		or 14.01 ft
STACK TEMP: 348.6 K		or 167.81 F
STACK VELOCITY: 2.25 m/s		or 7.38 ft/s

S20, Process 01
Releasing/Discharging material to the atmosphere

PROCESS NAME: Chimney S20
PROCESS COMMENTS: ALL CRITERIA POLLUTANTS AND HAPs ASSOCIATED WITH B26, B27, AND B28 MAY BE EMITTED FROM STACK S20.

SCHEDULE: 18 Hrs/Day	4 Dys/Wk	217 Dys/Yr	
QTRLY SCHEDULE: Q1: 24%	Q2: 24%	Q3: 26%	Q4: 26%

--INCOMING STREAMS--

C08-01 (100%) --> S20-01

--OUTGOING STREAMS--

S20-01 (100%) --> OUT

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S31	Stack	Stack
DEVICE DESC: NORTH ASH BLOWER VENT		
CONSTR DATE:		
DEVICE COMMENTS:		
STACK HEIGHT: 12.8 m		or 41.99 ft
STACK DIAMETER: .36 m		or 1.18 ft
STACK TEMP: 338.7 K		or 149.99 F
STACK VELOCITY: 14.65 m/s		or 48.06 ft/s

S31, Process 01	Releasing/Discharging material to the atmosphere
-----------------	--

PROCESS NAME:

PROCESS COMMENTS: This is for the stack that discharges from the north ash silo. The gas is burned in boiler 8 and only discharges directly when boiler 8 is off-line.

SCHEDULE: 19 Hrs/Day	7 Dys/Wk	23 Dys/Yr	
QTRLY SCHEDULE: Q1: 39%	Q2: 61%	Q3: 0%	Q4: 0%

--INCOMING STREAMS--

C32-01 (100%) --> S31-01

--OUTGOING STREAMS--

S31-01 (100%) --> OUT

S32	Stack	Stack
DEVICE DESC: SOUTH ASH BLOWER VENT		
CONSTR DATE:		
DEVICE COMMENTS:		
STACK HEIGHT: 10.97 m		or 35.99 ft
STACK DIAMETER: .3 m		or .98 ft
STACK TEMP: 338.7 K		or 149.99 F
STACK VELOCITY: 25.22 m/s		or 82.74 ft/s

S32, Process 01	Releasing/Discharging material to the atmosphere
-----------------	--

PROCESS NAME:

PROCESS COMMENTS: This is the exhaust stack for the south ash silo.

SCHEDULE: 24 Hrs/Day	7 Dys/Wk	365 Dys/Yr	
QTRLY SCHEDULE: Q1: %	Q2: %	Q3: %	Q4: %

--INCOMING STREAMS--

C31-01 (100%) --> S32-01

--OUTGOING STREAMS--

S32-01 (100%) --> OUT

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FACILITY EMISSIONS SUMMARY

-2012 SUMMARY-	--2012--	--2012--	--2012--	--2012--
<u>--POLLUTANT--</u>	<u>--NR438 THRESH--</u>	<u>--UNCNTRLD/YR--</u>	<u>--CNTRLD/YR--</u>	<u>--OZONE/DY--</u>
CO	10000 LB	78,073.51100 LB	78,073.51100 LB	
NOX	10000 LB	153,935.89000 LB	153,935.89000 LB	915.38224 LB
PM	10000 LB	34,431,263.69087 LB	31,144.53523 LB	
PM10	10000 LB	27,166,991.75079 LB	30,403.57949 LB	
SO2	10000 LB	415,313.01902 LB	415,313.01902 LB	
ARSENIC (fs)	.21 LB	2.10550 LB	2.10550 LB	
BENZIDINE (fs)	.01 LB	3.66717 LB	3.66717 LB	
BENZO(A)PYRE (s)	.81 LB	1.93657 LB	1.93657 LB	
BENZO(JK)FLE	12 LB	22.07471 LB	22.07471 LB	
BERYLLIUM (fs)	.37 LB	.39999 LB	.39999 LB	
CADMIUM (fs)	.49 LB	.64069 LB	.64069 LB	
CHLORINE (fs)	341 LB	9,853.84860 LB	9,853.84860 LB	
CO2	200000000 LB	293,452,929.00000 LB	293,452,929.00000 LB	
HF (fs)	803 LB	1,070.20950 LB	1,070.20950 LB	
HYDROGENCHLO (fs)	1777 LB	8,561.67600 LB	8,561.67600 LB	
NICKEL CMP (fs)	3.42 LB	5.87696 LB	5.87696 LB	
NITROUSOXIDE (s)	6000 LB	25,052.26420 LB	25,052.26420 LB	

-2011 SUMMARY-	--2011--	--2011--	--2011--	--2011--
<u>--POLLUTANT--</u>	<u>--NR438 THRESH--</u>	<u>--UNCNTRLD/YR--</u>	<u>--CNTRLD/YR--</u>	<u>--OZONE/DY--</u>
CO	10000 LB	70,966.86640 LB	70,966.86640 LB	
NOX	10000 LB	290,856.95400 LB	290,856.95400 LB	1,396.23301 LB
PM	10000 LB	54,246,547.50368 LB	53,825.52698 LB	
PM10	10000 LB	46,905,979.39694 LB	53,076.78904 LB	
ROG	6000 LB	6,998.50066 LB	6,998.50066 LB	35.43539 LB
SO2	10000 LB	870,420.62780 LB	870,420.62780 LB	
ARSENIC(FS)	.21 LB	4.79212 LB	4.79212 LB	
BENZIDINE(FS)	.01 LB	10.69285 LB	10.69285 LB	
BENZO(A)PYRE(S)	.81 LB	5.78699 LB	5.78701 LB	
BENZO(B)FLUO(S)	1.22 LB	3.41044 LB	3.41045 LB	
BENZO(JK)FLE	12 LB	65.96522 LB	65.96523 LB	
BENZO(K)FLUO(S)	1.22 LB	1.88361 LB	1.88362 LB	
BERYLLIUM(FS)	.37 LB	.51401 LB	.51399 LB	
CADMIUM(FS)	.49 LB	.89263 LB	.89263 LB	
CHLORINE(FS)	341 LB	2,052.67890 LB	2,052.67890 LB	
CO2	200000000 LB	631,331,807.37500 LB	631,331,807.37500 LB	
HF(FS)	803 LB	2,191.04400 LB	2,191.04400 LB	
HYDROGENCHLO (FS)	1777 LB	17,528.35200 LB	17,528.35200 LB	
NICKEL CMP(FS)	3.42 LB	11.56646 LB	11.56647 LB	
NITROUSOXIDE (S)	6000 LB	51,172.95972 LB	51,172.95972 LB	
SELENIUM(FS)	47.1 LB	63.97932 LB	63.97932 LB	

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REPORT LEGEND

--EMISSIONS--

c = Calculated; r = Reported

f = Federal Hap; s = State Hap; fs = Fed and State Hap